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Indian Standard

SPECIFICATION FOR BLADES FOR
ROTAVATOR FOR POWER TILLERS

(*First Revision*)

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SPECIFICATION FOR BLADES FOR ROTAVATOR FOR POWER TILLERS

(First Revision)

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Indian Standard

SPECIFICATION FOR BLADES FOR ROTAVATOR FOR POWER TILLERS

(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 28 September 1981, after the draft finalized by the Agricultural Tractors and Power Tillers Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Blade is an important soil engaging component of the rotavator. It wears out earlier than other components causing its replacement very often.

0.3 This standard covering various quality parameters was published in 1972. In view of difficulties faced by the manufacturers, a need was felt to revise it. In the revised version modifications have been made in hardness and dimensions to ensure better implementation of the standard.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies material, hardness, dimensions and other requirements for blades used in rotavators operated by power tillers.

2. TYPES

2.1 Blades shall be of the following types:

- a) Type A — Straight blade (see Fig. 1), and
- b) Type B — Hatchet blade (right or left) (see Fig. 2).

*Rules for rounding off numerical values (revised).

3. MATERIAL

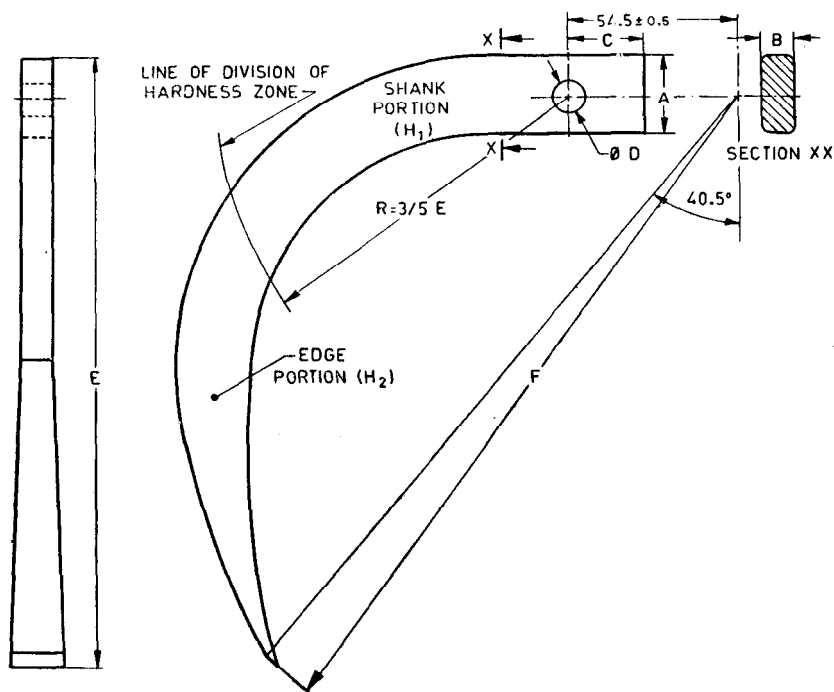
3.1 The chemical composition of the steels to be used for the manufacture of blades shall be as follows:

a) *Carbon Steel:*

Carbon	0.70 to 0.85 percent
Silicon	0.10 to 0.40 percent
Manganese	0.50 to 1.0 percent
Sulphur	0.05 percent, <i>Max</i>
Phosphorus	0.05 percent, <i>Max</i>

b) *Silico Manganese Steel:*

Carbon	0.50 to 0.60 percent
Silicon	1.50 to 2.00 percent
Manganese	0.50 to 1.00 percent
Sulphur	0.05 percent, <i>Max</i>
Phosphorus	0.05 percent, <i>Max</i>



All dimensions in millimetres.

FIG. 1 STRAIGHT BLADE

5. DIMENSIONS AND TOLERANCES

5.1 The essential dimensions of Type A and Type B blades when read in conjunction with Fig. 1 and 2 respectively, shall be as given in Table 1.

TABLE 1 ESSENTIAL DIMENSIONS OF BLADES

All dimensions in millimetres.

SL No.	DESCRIPTION	DIMENSION	TOLERANCE
(1)	(2)	(3)	(4)
i)	A	25.0, 26.0	- 0.3 - 0.8
ii)	B	10.0	± 0.5
iii)	C	25.0	± 0.5
iv)	D	10.5	+ 0.3 - 0.0
v)	E	150*, 180*, 190*, 210† or 225†	± 5
vi)	F	240, 245	± 5

*For straight type.

†For hatchet type.

5.2 Other dimensions of Type A and Type B blades given in Fig. 1 and 2, respectively are only recommendatory. However, these dimensions shall be declared by the manufacturer. The tolerance for declared values shall be as given in Fig. 1 and 2.

6. WORKMANSHIP AND FINISH

6.1 The blades shall be free from cracks, seams and other visual defects which may be detrimental for their use.

6.2 The blades shall be free from rust and shall have a protective coating which will prevent surface deterioration in transit and storage.

7. MARKING AND PACKING

7.1 **Marking** — Each blade shall be marked with the following particulars at a suitable place avoiding the soil facing side:

- Manufacturer's name or recognised trade-mark;
- 'L' or 'R', in case of hatchet type blades to demote 'left' or 'right'; and
- Batch or code number.

7.1.1 Each blade may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

7.2 Packing — The blades of the same type shall be packed for safe handling in transit as agreed to between the purchaser and the supplier.

8. SAMPLING FOR LOT ACCEPTANCE

8.1 Unless otherwise agreed to between the purchaser and the supplier, the sampling of blades for lot acceptance shall be done in accordance with 3 of IS : 7201-1974*.

8.1.1 The classification of different requirements of this standard for the purpose of testing for lot acceptance is given below for guidance:

- a) *Dimensional and Visual Requirements* — See 5, 6 and 7.1.
- b) *Other Than Dimensional and Visual Requirements* — See 4.

*Methods of sampling of agricultural machinery and tractors.

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